

ABSTRACT OF THE DISCLOSURE

A control system is disclosed for optimizing the transient response of a gas turbine engine by controlling the variable positioning of compressor inlet guide vanes. The system employs a normal mode schedule which schedules relatively closed inlet guide vane settings at low compressor speeds and relatively open inlet guide vane settings at high compressor speeds. The system further employs an alternate mode schedule that schedules inlet guide vane settings that are more closed at low compressor speeds than those scheduled by the normal mode schedule. Control logic is provided for rapidly moving the inlet guide vanes from the more closed settings of the alternate mode schedule to settings which are more open than those which are schedule by the normal mode schedule, during an acceleration from low engine power levels. The control logic is further configured to command the inlet guide vanes back to the normal mode schedule as the acceleration nears completion.

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